

**PHASE-CHANGEABLE DEVICES HAVING AN INSULATING BUFFER  
LAYER AND METHODS OF FABRICATING THE SAME**

**Abstract of the Disclosure**

Phase-changeable devices and method of fabricating phase-changeable devices are provided. The phase-changeable devices have a first insulating layer disposed on a first electrode. A heater plug extends through the first insulating layer and contacts the first electrode. A buffer insulating layer region is disposed on the first insulating layer opposite the first electrode and a phase-changeable material region is disposed on the buffer insulating layer region. The phase-changeable material region may extend into the buffer insulating layer region. The phase-changeable material region contacts a surface of the heater plug. A second electrode disposed on the phase-changeable material region. Spacers may be provided on sidewalls of the buffer insulating layer region between the phase-changeable material region and the buffer insulating layer region. The buffer insulating layer region may have a thermal expansion coefficient between the thermal expansion coefficients of the first insulating layer and the phase-changeable material region.